WT-1672D
GSM Remote Monitor and Remote Control Switch

USER MANUAL

INTRODUCTION

The WT-1672D GSM Remote Monitoring & Remote Control Switch is capable of monitor 2 digital inputs, 1 x 30A relay output, 1 timer input, and power outages notification function. One of the digital inputs can turn to pulse counter input.

The unit can monitor 2 digital inputs. A call and SMS alarm message will sent when inputs triggered. The system is able to load up to 5 numbers in the white list as authorised users. One of the digital inputs can be pulse counter alarm input. The input alert message can be edited and programmed up to 40 characters long. User can change the display text by sending the SMS text commands to the units.

The unit also has 1 x 30A heavy duty relay output can be used to switch on any application like lamps, pumps, heaters, motor etc. Output relay can be switched ON or OFF by calling its cell phone number or by sending an SMS command, there is no call charges incurred when dialling the unit as it will recognize an authorised telephone number calling it and reject the call without answering. One Call to the SIM Card Number will switch the device OFF permanently. Another Call to the SIM Card will switch the device ON permanently.

The GSM Remote Control system supports timer function, the user can set schedule to turn on / off the switch. For example, put your pump, motor on a schedule. “Turn off in 5 minutes”, “turn on at 17:00, “turn on 1 year later”

This function is important to use in the renting and leasing industry of electrical appliances, heavy vehicle, and rental of site equipment to turn off the machines when off hire time completed

This function also important as the reminder to the owner to monitor the SIM Card expiry date. User can instruct the unit to trigger the relay in the specified times and sent the SMS to the user to keep the SIM card active when expiry dates.

The unit equips 1 pulse counter input, the range is 00000~59999. The user can setup start value, interval alert value alert, interval time to alert, total value to alarm, when total value alarm occurrence, it can active the relay outputs and sent SMS or dial to authorize phone number.

The unit detect loss of power. Once power outage is detected, the unit will call and SMS to your cell phone and / or sound an auditable alert to make you aware of the power failure. The system using CE and FCC approved industry internal power supply connected on board. A backup lithium battery can power up at least 8 hours and will sent a power down or power restored alerts in the event of power failure

SETTING UP AND PROGRAMMING

When first booting up the system you will see Green LED Lights on the side of the Enclosure and it should light up when the Network is applied to the unit.

The Green LED is the network Indicator and this will light up when attempting to log on to the network flash inconsistently until it locates the network.

A Phone Call to the SIM Card Number will now Latch the Relay permanently ON and Switch the device being Controlled On.

The Status of the Relay will remain as on, until the unit receives a second Call to the Unit of which will now Latch the Relay Permanently off.

Both Calls used to Latch the Relay either on or off are automatically disconnected, once the relays are activated and never incur any Network Call Costs.

Beside calls to switch off or on, the unit also can be permanently switch off and on by sending the unit a text message command

Step 1 - The simplest set up methods to set up Administrator number

Applied the "KISS Principle", keep it simple, stupid.

The GSM Remote Control Switch is easy to setup and use. Insert the SIM card, simply use your mobile phone call to the unit, your mobile phone number will automatically register as the 1st Administrators

You will receive the following SMS message from the unit –

Administrator:

1: 18617185300 (your phone number)

2:

3:

4:

5:

You already finish the set up. Now, you can use your mobile phone call to the SIM Card number switch the device on permanently. Another call to the SIM Card will switch the device off permanently.

If you do not required to go through details setting, please process to STEP3 – Final Installation and Wiring

Factory Reset

If you required to change the administrator number in the future, simply press the button “FACTORY” at the mother board until you hear the “du~” . This means the unit back to the factory default

This means you already reset the unit to factory default. Now you can start to call again to set the administrator.

This method of setting is only allowed to set 1 administrator number. If you wish to set more administrators, please go to Step 3 – Installation and set up

Step 2 - Advance Set Up

NO.	Description	Programming Code	SMS Texts Respond	Function
1	First Step of programming, you must enter the factory passwords of 1234 and go inside the programming mode. You only can perform the next commands after enter into programming mode	***0*1234#**	**You get administrator privileges!** **2013-10-09 00:33 Wed**	When you enter *0*1234#, you enter into the programming mode. You must perform the next command in 10 minutes. If you did not do anything, the system will exit from programming mode.
2	Change Password	*0*1234*new password# For example if you need to change to the new PW of 1212. *0*1234*1212#	**New password<1212>** **2013-10-10 16:07 Thu**	Maximum 4 digits of passwords If you decide to protect your privacy, you can change the factory password to your new password. Enter the factory password follow by your new password.

3	Add telephone number into the admin list.	*1*1*telephone number# For example set Admin number 18617185300 into admin 2 *1*2*18617185300#	**Administrator:** **1: 15989427391** **2: 18617185300** **3:** **4:** **5:** **2013-10-10 16:08 Thu**	Set Admin Numbers ; *1*1* - set 1st admin number *1*2* - set 2nd admin number *1*3* - set 3rd admin number *1*4* - set 4th admin number *1*5* - set 5th admin number Only the number in the list can receive alarm texts message and active the relay output. You can add up to 5 telephone number into the admin list.
4	Check phone number you program in the list	*2*	**Administrator:** **1: 15989427391** **2: 18617185300** **3:** **4:** **5:** **2013019019 16:09 Thu**	
5	Delete the admin number in the list.	*3*N# N = Admin number 1- 5 For example, if you want to delete admin no 2. just enter *3*2#	**Administrator:** **1: 15989427391** **2:** **3:** **4:** **5:** **2013019019 17:16 Thu**	Delete Admin Number Delete 1st admin *3*1# Delete 2nd admin *3*2# Delete 3rd admin *3*3# Delete 4th admin *3*4# Delete 5th admin *3*5#
6	Check the relay status in ON or OFF Mode.	*4*	**Master relay <ON>** **2013-10-10 16:10 Thu**	The unit will return Master relay <ON> if the relay is on. The unit will return Master relay <OFF> if the relay is off.

7	Check Signal Strength	*5*	**CSQ<28>** **2013-10-10 16:11 Thu**	You must confirm the signal strength at site before you install the unit. If the signal too weak, the unit will not function properly. CSQ 5 – 12 Signal too weak, system not function CSQ 13 - 24 Signal Good. System function well CSQ 25 – 32 Signal Excellent. System working well
8	Setting the year, month, day, hours, minutes, week	*12*YYYYMMDDHHMMX#	**Time change OK!** **2013-10-10 16:05 Thu**	YYYY=4 digit for Year MM = 2 digit for Month DD = 2 digit for Date HH = 2 digit for Hour MM = 2 digit for Minutes X = 1-7 (Day of the Week) Example set as *12*2013101016054# which means 2013-10-10 16:05 Thu If reprogram the date, it will take the last as the accurate date. The date have to be correct (if setting 2014-2-29 or 2013-11-31) this is the incorrect date which is not occur, the system will verify the date, time, day if correct, the date have to be after year 2013

9	Schedule the ON/OFF for the Master Relay	*13*N*YYYYMMDDHHMM#	**Master relay off time: 2013-10-10 16:33** **2013-10-10 16:31 Thu** When the programmed time is reach, the relay is either on or off, all the admin will get the reply SMS as per below. Since time is up! **Master relay<OFF> 2013-10-10 16:33 Thu**	N=0 (Switch Off the Master Relay) N=1 (Switch On the Master Relay) YYYY=4 digit for Year MM = 2 digit for Month DD = 2 digit for Date HH = 2 digit for Hour MM = 2 digit for Minutes Example set as *13*0*201310101633# which means 2013-10-10 16:33 to switch off the master relay If reprogram the date, it will take the last as the correct date. If you program the date that already past, the system will alert you
11	Checking the schedule time for Master Relay ON/OFF	*14*	**Master relay on time:** **Master relay off time: 2013-10-10 16:33** **2013-10-10 16:35 Thu**	Checking the schedule time for Master Relay ON/OFF, when the time reach, the system will operate and it will delete the schedule time automatically.
12	Delete the schedule time for the Master Relay ON/OFF	*15*N#	**Master relay on time:** **Master relay off time:** **2013-10-14 11:08 Mon**	N=0 (Delete schedule of Relay OFF Time) N=1 (Delete schedule of Relay ON Time)
14	SMS Reply Message when the system ON/OFF	*21*N#	**Message switch <ON>** **2013-10-10 17:06 Thu**	N=0 means SMS Reply Message when the system OFF N=1 means SMS Reply Message when the system ON Factory Default as SMS Reply Message when the system ON If setting to not receive SMS Reply Message when the system OFF, the unit will return a message indicate successful setting for the command and it will no longer sending SMS reply until the setting of SMS Reply Message when the system ON is done. When the system having the temperature alert, wireless alarm alert, it will automatically sending the alert message to the Admin

15	To receive SMS Reply Message or not to receive SMS Replay Message when the system trigger by phone call	*22*N#	After sending command *22*0# **Status switch <OFF>** **2013-10-10 17:10** **Thu：** After sending command *22*1# **Master relay <OFF>** **2013-10-10 17:08** **Thu：**	N=1 means after make the phone call to the system, it will return the SMS for the status to the caller N=0 means after make the phone call to the system, it will not return the SMS for the Status to the caller Factory Default as return SMS for the status after make the phone call ** If you decide not to allow the system to text you for any acknowledgement after you call to the unit. You can switch OFF the text message. Some Customer request this function because texts reply involved call cost
18	Security mode/ Open Mode	*23*N#	When Setting as Security Mode *23*1# **Mode switch <ON>** **2013-10-10 17:13 Thu** When Setting as Open Mode *23*0# **Mode switch <OFF>** **2013-10-10 17:13 Thu**	N=1 means in security mode. Only allow the number in the list can text to the unit to control the system. N=0 means in open mode. Anybody can call to the unit to control the system. Please take note that the Privacy and Security before you decide to use the Open Mode Factory Default is N=1 for Security Mode
20	SMS Text Message to Switch On/Off Relay	*24*N#	When Setting as *24*1# **Master relay <ON>** **2013-10-10 17:13 Thu** When Setting as *24*0# **Master relay <OFF>** **2013-10-10 17:13 Thu**	N=1 means switch on the relay by SMS Message N=0 means switch off the relay by SMS Message

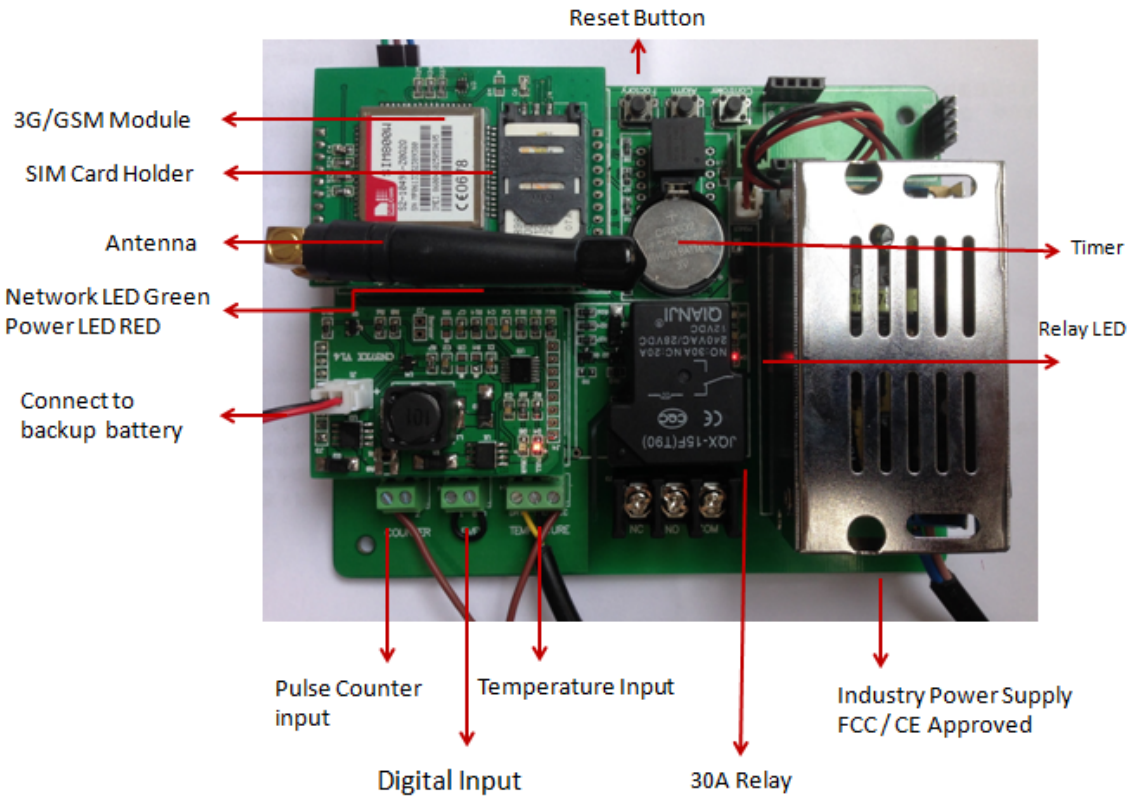
21	SMS Text Message to Switch On/Off Relay	*24*N#	When Setting as *24*1# **Master relay <ON>** **2013-10-10 17:13 Thu** When Setting as *24*0# **Master relay <OFF>** **2013-10-10 17:13 Thu**	N=1 means switch on the relay by SMS Message N=0 means switch off the relay by SMS Message
22	Call alert to the First Admin Number when turn on / off the alarm equipment	*25*N#	When Setting as *25*5# **Call switch: wireless alarm** **2013-10-10 17:18 Thu**	N=0 means switch off all alarm alert, which means any alarm alert from the equipment, it will not call the first admin number N=1 means when the equipment is switch on, it will call the first admin number N=2 means when the equipment is power outage, it will call the first admin number N=3 means when the equipment is line cut trigger, it will call the first admin number N=4 means when over the high or low limit of temperature, it will cal the first admin number N=5 means when the 9 channel wireless alarm having the alarm alert, it will call the first admin number N only can set for either one between 0 to 5 which means only can set either 1 function. If there is a repeat setting, it will overwrite the before setting and take the last setting. Factory Default as N=0 which means any alarm alert from the equipment, it will not call the first admin number

23	Edit Input Messages for the system and 9 Channels Wireless Alarm Alert Messages	*26*N*XXXXXXXX#	When Setting as *26*0*The equipment has already started!# **Startup user defined information: The equipment has already started!** **2013-10-10 17:24 Thu** When Setting as *26*1*The door closed!# **Wireless 1 defined information: The door closed!** **2013-10-10 17:21 Thu**	N=0 means Edit for Input Messages for the system when switch on N=1 -9 means Edit for Input Alert Message for which channel of Wireless Alarm Equipment that connected N=10 means Edit for Input Alert Message for line cut alert N=11 means Edit for Input Alert Message for pulse counter when it reach the value set. XXXXXXX is the text messages content which can up to 70 alphabet. When the text message content successfully programmed, it will overwrite the system default text messages
24	Check input messages programmed in the system and the 9 channels wireless alarm alert messages	*27*N#	When Setting as *27*0# **Startup user defined information: The equipment has already started!** **2013-10-10 17:36 Thu** When Setting as *27*1# **Wireless 1 defined information: The door closed!** **2013-10-10 17:40 Thu**	N=0 means Check the Input Messages for the system when switch on N=1 -9 means Check the Input Alert Message for which channels of Wireless Alarm Equipment that connected N=10 means Check Input Alert Message for line cut alert N=11 means Check Input Alert Message for pulse counter when it reach the value set. If there is no text message programmed, it will return a SMS with Blank Message

25	Delete input messages programmed in the system and the 9 channels wireless alarm alert messages	*28*N#	When Setting as *28*0# **Delete OK!** **2013-10-10 17:42 Thu** After delete success, when system restart, admin will receive the default text message **System startup!** **Master relay <OFF>** **2013-10-10 17:45 Thu** When Setting as *28*1# **Delete OK!** **2013-10-10 17:42 Thu** After delete success, when the 1st channel wireless alarm trigger, admin will receive the default text message **Alarm 1.Please timely processing!** **2013-10-10 17:45 Thu**	N=0 means Delete the Input Messages for the system when switch on N=1 -9 means Delete the Input Alert Message for which channels of Wireless Alarm Equipment that connected N=10 means Delete Input Alert Message for line cut alert N=11 means Delete Input Alert Message for pulse counter when it reach the value set. If there is no text message programmed, it will return a SMS with Blank Message
26	Setting Pulse Counter	*29*XXXXX#	When Setting as *29*00030# **Overplus: 30 PCS** **2013-10-10 17:42 Thu**	XXXXX = 00000 to 59999 means the pulse counter value After setting the pulse counter value, when there is pulse situation, the system will calculate the total number of pulses, and sending the text messages to the Admin. The message will include the total pulse counter value within 1 minute and the remaining value of the pulse counter value. (which means the total pulse counter value deduct the pulse counter value)
27	Check Remaining Pulse Counter Value	*30*	When sending *30* **Overplus: 30 PCS** **2013-10-10 17:27 Thu**	Checking the remaining pulse counter value

28	This command is setting of high or low voltage level output. Low voltage level output connects J16 connector (0V or GND). Setting is *31*0# High voltage level output connect the J16 connector (5V or GND) and set the *31*1#	*31*N# *31*0#, low voltage level output connection *31*1#, High voltage level output connection	When sending *31*1# **Line alarm: High level** **2013-11-30 09:42 Sat**	N=0 means low voltage alarm (which means connect the 2PIN at the J16 port) N=1 means high voltage alarm (which means disconnect the 2PIN at the J16 port) Factory Default as N=0 where the 2PIN at the J16 port connected
29	This commands is to set either relay should trigger manually by user or automatically by unit Factory default: User manually active the relay when input alarm trigger. If user required the relay trigger automatically when input alarm trigger, they can perform this commands	32*N# *32*0# - The unit will latch the relay when input trigger. (Default Setting) *32*3# - When input trigger, latch the relay automatically *32*4# - When alarm (input) back to normal, trigger relay OFF automatically *32*5# - When Pulse counter reaching the limit, trigger relay	When sending *32*1# **Linkage: High temperature.** **2013-11-30 09:44 Sat**	N=0 means when the system have alarm alert, it will not switch on the relay (the relay will not action if there is any alarm alert) N=1 mean when high temperature will switch on relay, when low temperature will switch off relay N=2 means high temperature will switch off relay, when low temperature will switch on relay N=3 means line cut alert will switch on relay N=4 means line recover will switch off relay N=5 means when reach the pulse counter value will switch on relay N=6 means any channels of wireless alarm will switch on relay Default as N=0 which when reach the pulse counter value will switch on relay ** This command only can operate when the Master Relay under Open Mode (which mean the command *23*0#). If it is under Security Mode, the Master Relay will no function

Step 3 - Installation



Insert the SIM card, to access the SIM card carrier gently push the button adjacent to it, insert the SIM card and carefully close the carrier

Connect the cable to terminals 220V & N ensuring positive is connected to terminal 200V, switch on the power supply , the red power LED will light indicating power is present, the blue network LED indicator will initially flash quickly, once logged onto the network , it will flash more slowly approximately one every 3 -4 seconds

It is recommended that the GSM Remote Control Switch be programmed to operate as required before final installation.

Connection Details

If you are unsure how to connect the device you wish to control refer to a qualified person

Connector	1	2	3
Description	Digital/Analogue Input		
	Digital or Pulse Counter	Digital Or Analogue	Temperature Input

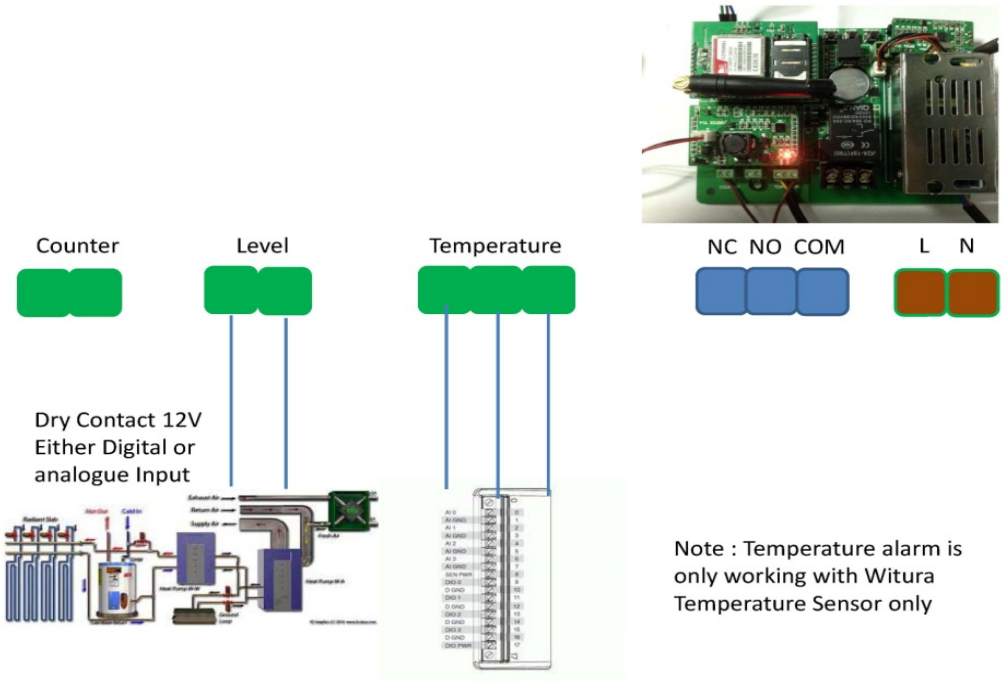
1	2	3
Relay Connection		
NO	NC	COM

4	5
110V-240V Industry Power Supply	
L	N

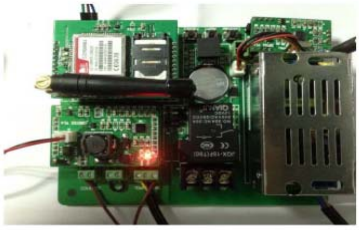
Note:

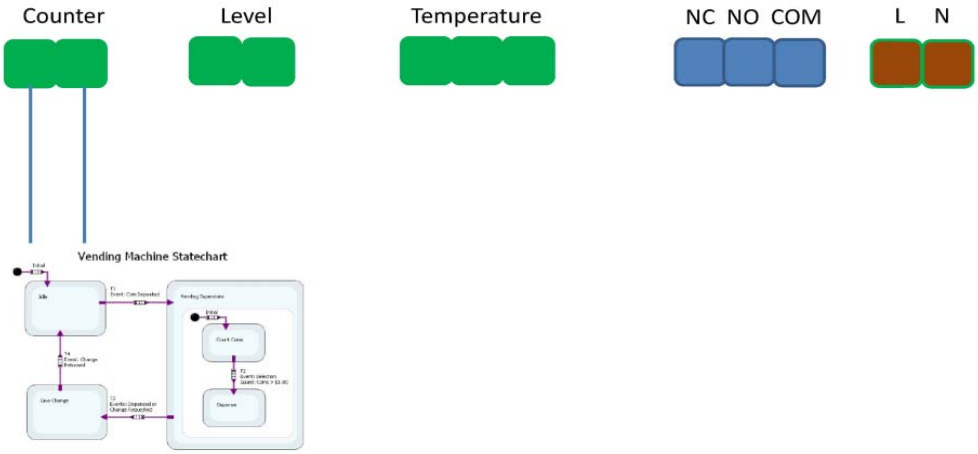
1. The Temperature Input is only work with Witura Temperature Sensors
2. The Connect 4 and 5 is inside the Industry Power Supply

Example Wiring Diagram For Digital And Analogue Input

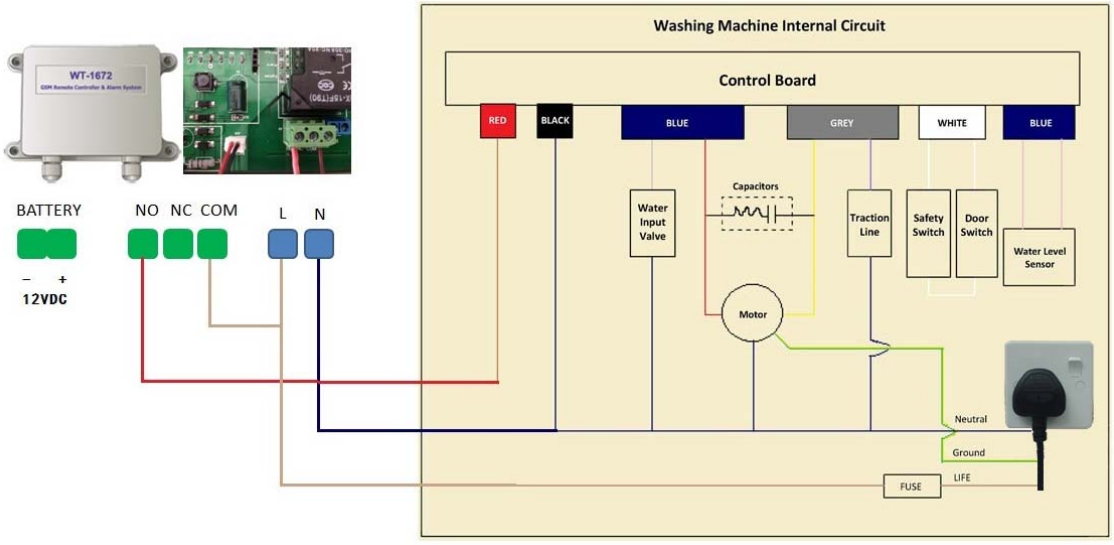


Example Wiring Diagram For Pulse Counter

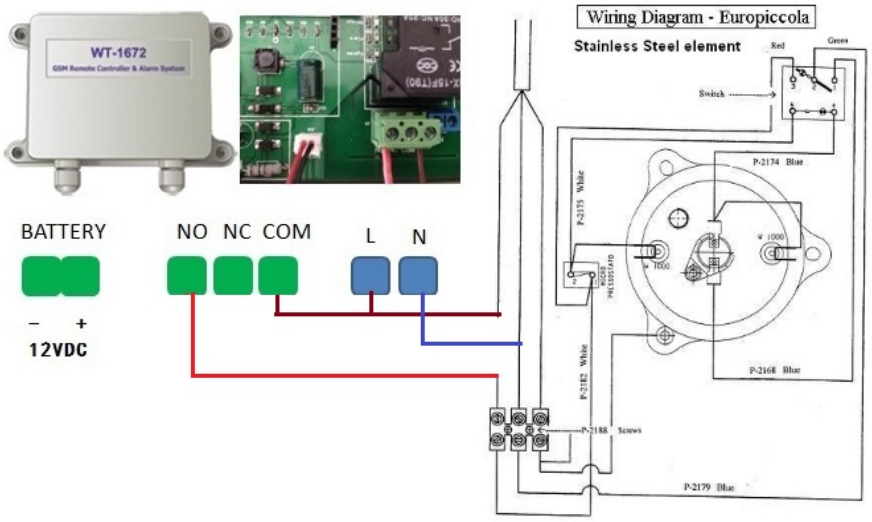




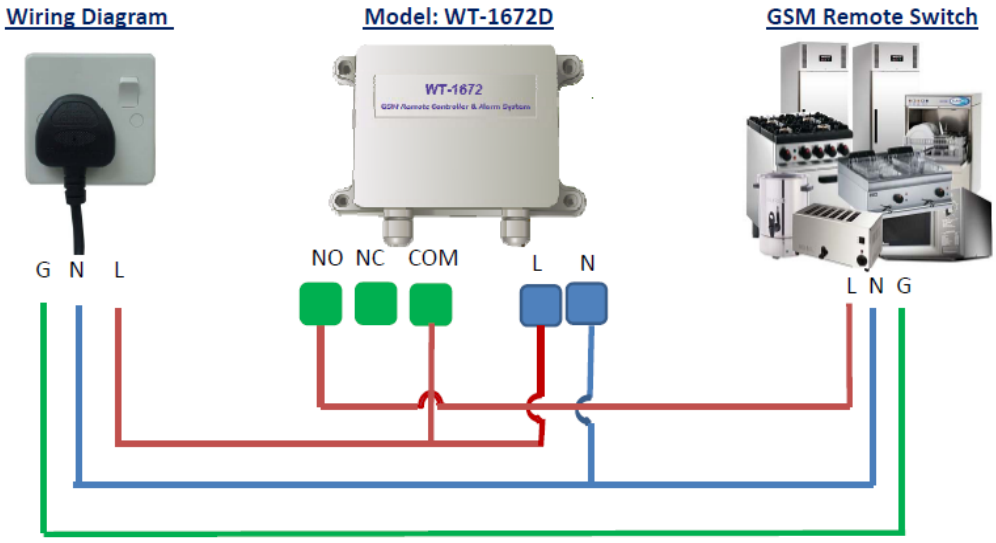
Example Connection with Washing Machine



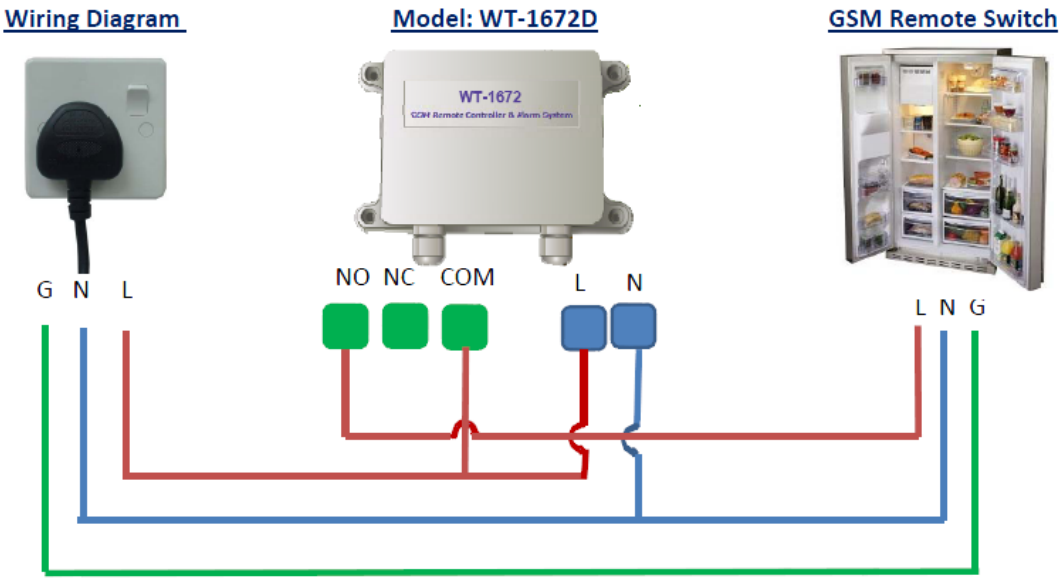
Example Connection with Coffee Machine



Example Connection with Catering Equipment



Example Connection with Freezer



Production Specifications

Operation Voltage	12 volts DC
Operating Current	Maximum 500mA, typically 55mA
Relay Contacts	1 x Normally Open and Normally Closed Contacts maximum switching capacity 20 amps @230v ac per relay
GSM Frequency MHz	GSM 850, GSM 900, GSM 1800, GSM 1900
Humidity	Less Than 80% RH
Operating Temperature **Physical Size**	-20c to 55c 130 x 100 x 50mm
Protection	IP 65 Weather Proof Casing
Approvals	C.E, FCC, ETSI

Preparing the SIM card

All new SIM cards have to be registered with the network provider before they can be used, usually by calling the network provider or registering on their website please refer to the instructions supplied with your SIM card.

During the registration procedure a confirmation code or text message is usually sent to the SIM cards telephone number, to be able to read and react to the message you will need to insert the SIM card into an unlocked mobile phone.

After successfully registering the SIM card, ensure there is sufficient credit on the card for programming confirmation texts to be sent from the GSM Remote Control Switch.

You MUST ensure that the PIN request is disabled from the SIM card before inserting it into the GSM Remote Control Switch. If you do not disable the PIN request the GSM Remote Control Switch will not work. If the PIN request is not disabled and the unit is switched on more than 3 times you will have to reset the PIN using the PUK code which will have to be obtained from the service provider.

To check the PIN request status of your SIM card, place the card in an unlocked mobile phone, switch the phone on. If you are able to make calls without entering a PIN number the PIN request is disabled. If a PIN number is requested refer to the instructions supplied with the SIM card and then look through the phones options for the 'disable PIN request' and disable it.

You MUST disable any voicemail that is set up on the SIM card; the codes shown below are for UK networks only, please refer to your network operator if outside the UK

Vodafone: 1210 >Send - you will hear 'order is accepted and confirmed'

O2 - Call 1760 >Send - you will hear 'order is accepted and confirmed'

T-Mobile - Call 222 and follow instructions

Orange - Call 450 and follow instructions

The SIM card is now ready to use

We recommend that if you are using a 'pay as you go' (PAYG) SIM card that you choose to automatically 'Top-Up' when the cards credit falls below a certain limit please contact your network provider or visit their website for more details.

Most but not a using post-paid SIM cards will be de-activated by the network if not used to make an outgoing voice call or send an SMS text message within a specific period. To prevent this simply send the GSM Remote Control Switch a text command *0*PW#, then *2*, it will reply by text message, do this once a month to keep the SIM card active.

Troubleshooting

1. Red power LED not alight	Ensure that your DC power supply is connected correctly, positive (+) to terminal 220v and negative (-) to terminal N. Verify 12 volts is present using a volt meter
2. Blue network LED flashing every one second and not every 3 seconds	Ensure your SIM card has been activated and that the PIN request has been disabled. If the unit is in a low signal strength area consider using an external GSM antenna or changing to another network provider
3. I am not receiving confirmation test messages when program the administrators number	Ensure your telephone number is in the Administrator list and that sending text messages to your number is enabled.
4. I am not receiving any text messages when initially programming the unit	Ensure the unit is connected to the GSM network by observing the blue network LED; it should be flashing once every 3 seconds (see 2 above). Ensure the SIM card has credit
5. The unit has been working for several months and has now stopped responding to calls and text commands	Most but not all PAY SIM cards will be de-activated by the network if not used to make an outgoing voice call or send an SMS text message within a specific period. To prevent this simply send a txt command *0*PW#, then *2*, it will reply by text message, do this once a month to keep the SIM card active

Warranty

Witura Technology Sdn Bhd warrantees the WT-1672D GSM Remote Control Switch against defective parts and workmanship. Witura Technology Sdn Bhd shall, at its option, repair or replace the defective equipment upon the return of such equipment to any Witura branch. This warranty applies ONLY to defects in components and workman-ship and NOT to damage due to causes beyond the control of Witura, such as incorrect voltage, lightning damage, mechanical shock, water damage, fire damage, or damage arising out of abuse and improper application of the equipment.

Note: Wherever possible, return only the PCB to Witura Service Centres.

DO NOT return the enclosure.

The WT-1672D is a product of

Witura Technology Sdn Bhd

And is manufactured by

Shenzhen Witura Telecommunications Co., Ltd.

WARNING

For safety reasons, only connect equipment with a telecommunications compliance label. This includes customer equipment previously labelled permitted or certified.